

MPM 1D Opener

$$i) 2^3 \times 2^4 \quad ii) \frac{3^6}{3^2} \quad iii) \frac{x^2 y^4}{x^3 y^2}$$

$$iv) (x^2 y)^3 \quad v) \frac{x^4 y^3}{x^2 y^2} \quad vi) \frac{x^4 y^3}{x^2 y^2}$$

$$vii) (x^3)^{-3} \quad viii) (x^2 y)^{-2}$$

$$3.00 \times 10^4 \times 9 \times 10^{-6}$$

$$27 \times 10^{-2}$$

$$2.7 \times 10^{-7}$$

Apr 3-1:08 PM

$$2^3 \times 2^4 = \frac{2^3}{2^2} = 2^{3-2} = 2^1 = 2$$

$$\frac{x^2 y^4}{x^3 y^2} = x^{2-3} y^{4-2} = x^{-1} y^2 = \frac{y^2}{x}$$

$$\frac{x^4 y^3}{x^2 y^2} = x^{4-2} y^{3-2} = x^2 y^1 = x^2 y$$

$$(x^3)^{-3} = x^{3 \times -3} = x^{-9} = \frac{1}{x^9}$$

$$(x^2 y)^{-2} = x^{2 \times -2} y^{-2} = x^{-4} y^{-2} = \frac{1}{x^4 y^2}$$

$$3.00 \times 10^4 \times 9 \times 10^{-6}$$

$$27 \times 10^{-2}$$

$$2.7 \times 10^{-7}$$

Apr 3-1:08 PM

4.1 Polynomials p. 254-259

$$3s + 6$$

-This algebraic expression has 2 terms

i) $3s$ — variable
coefficient

ii) 6 constant
represents the change or rate

$p = 3k + 4$
price distance in kms

Feb 18-11:36 AM

Rules

Like Terms have the same variable and exponents

$$8s \text{ and } 3s$$

$$2s^2 \text{ and } 4s^2$$

Different Terms

have different variables and/or exponents and cannot be combined

ie $3s$ and $4n$ b/c diff variables

$3s$ and $3s^2$ b/c diff exponents

Feb 18-1:11 PM

Algebraic expressions are also called Polynomials

Polynomials \rightarrow terms are being added or subtracted (combined)

Monomial 1 term $3x^4$

Binomial 2 terms $3x^4 + 2x$

Trinomial 3 terms $2x^2 - 6x + 4$

Feb 18-1:17 PM

Addition & Subtraction \Rightarrow Like Terms

Addition

i) $(4s + 6) + (3s + 8)$

$$\underline{4s + 6} + \underline{3s + 8}$$

$$7s + 14$$

All the rules of rationals apply

- integers
- fractions

Feb 18-1:20 PM

ii) $(3s^2 + 2s + 4) + (2s^2 + s + 2)$

$$\begin{array}{r} 3s^2 + 2s + 4 + 2s^2 + s + 2 \\ \hline 5s^2 + 3s + 6 \end{array}$$

- highest Variable first
- constant last

Feb 18-1:25 PM

$(3r^2 + 2s + 5) - (2r^2 + 3s + 2)$

$$\begin{array}{r} 3r^2 + 2s + 5 - 2r^2 - 3s - 2 \\ \hline r^2 - s + 3 \end{array}$$

ii) $(3n^4 + 2r - 6) - (2n^4 + 3r - 8)$

$$\begin{array}{r} 3n^4 + 2r - 6 - 2n^4 - 3r + 8 \\ \hline n^4 - r + 2 \end{array}$$

Feb 18-1:34 PM

$\left(\frac{3}{4}a - \frac{1}{2}b\right) + \left(\frac{2}{5}a - \frac{1}{4}b\right)$

$$\frac{3}{4}a - \frac{1}{2}b + \frac{2}{5}a - \frac{1}{4}b$$

$$\begin{array}{r} \frac{3}{4}a + \frac{2}{5}a - \frac{1}{2}b - \frac{1}{4}b \\ \hline \frac{15}{20}a + \frac{8}{20}a - \frac{2}{4}b - \frac{1}{4}b \\ \hline \frac{23}{20}a - \frac{3}{4}b \end{array}$$

Feb 18-1:29 PM

$p257 \{ 253 \text{ text}$

$q1a) b) c) 2a) b) c) 4g-1k 5a-i$

$6a-f 10, 12 7 \{ 11$

subtraction

Feb 18-1:41 PM